

the overlay into the tire seat area of the wheel, under tire radial load or "run flat" conditions. The present invention avoids these risks by design. First, the present invention aligns the radially outermost edge of the overlay with the radially outermost edge of the wheel within a certain tolerance range such that the overall diameter of the overlay cannot exceed the overall diameter of the wheel, thereby maintaining the overlay out of the way of service equipment. Second, the present invention consequently maintains the sharp radially outermost edge of the overlay outboard of the tire seat area of the wheel, thereby eliminating the potential risk of damage to the tire.

While the invention has been described in terms of a preferred embodiment, it is apparent that other forms could be adopted by one skilled in the art. Accordingly, the scope of the invention is to be limited only by the following claims.

What is claimed is:

1 1. A wheel and overlay assembly, comprising:

2 a wheel having an outboard surface thereon, said wheel further
3 having a disk portion and a rim portion circumscribing said disk portion, said rim portion
4 having a rim flange circumscribing said rim portion, said rim flange terminating in a
5 flange lip defining a radially outermost edge thereon; and

6 an overlay having an outboard surface thereon, said overlay being
7 attached to said outboard surface of said wheel, said overlay further having a web portion,
8 and a peripheral flange circumscribing said web portion and terminating in a peripheral
9 lip, said peripheral lip having a radially outermost edge aligned within a predetermined
10 margin with respect to said radially outermost edge of said flange lip of said wheel so that
11 said peripheral lip covers at least a portion of said flange lip of said wheel but does not
12 extend therebeyond, so as to give a visible impression that said outboard surface of said
13 overlay is actually said outboard surface of said wheel and not a separately attached
14 component of said wheel and overlay assembly.

1 2. The wheel and overlay assembly of Claim 1, wherein said
2 radially outermost edge of said peripheral lip of said overlay is aligned with said radially
3 outermost edge of said flange lip of said wheel within a circumferential margin of about
4 1.2 to 1.5 millimeters having a bilateral tolerance of about 0.8 millimeters.

1 3. The wheel and overlay assembly of Claim 2, wherein said
2 radially outermost edge of said peripheral lip of said overlay is aligned with said radially
3 outermost edge of said flange lip of said wheel further within a circumferential margin of
4 0 millimeters having a unilateral tolerance of about 1.6 millimeters.

1 4. The wheel and overlay assembly of Claim 1, wherein said overlay is
2 spaced away from said wheel by an adhesive/sealant bead means and is attached to said
3 wheel with a selectively deposited adhesive.

1 5. The wheel and overlay assembly of Claim 1, wherein said overlay
2 further comprises:

3 an inboard surface; and
4 at least one offset integral with said inboard surface of said overlay,
5 said at least one offset locating said overlay relative to said rim flange of said wheel.

6. The wheel and overlay assembly of Claim 4, wherein said adhesive
is a double-sided adhesive tape.

7. The wheel and overlay assembly of Claim 4, wherein said adhesive
is a mechanical interlocking means.

8. The wheel and overlay assembly of Claim 1, wherein said overlay
includes a heat-resistant metal-plated finish.

9. The wheel and overlay assembly of Claim 1, wherein said overlay
includes a heat-resistant paint finish.

10. The wheel and overlay assembly of Claim 1, wherein said overlay
includes a weatherable material with no finish applied thereto.

11. The wheel and overlay assembly of Claim 1, wherein said wheel is
composed of a metal material.

12. The wheel and overlay assembly of Claim 1, wherein said wheel is
composed of a composite material.

1 13. The wheel and overlay assembly of Claim 1, wherein said
2 peripheral flange and said rim flange combine to define industry standard dimensions that
3 meet attachment requirements for industry standard wheel balance weights.

1 14. The wheel and overlay assembly of Claim 13, wherein said overlay
2 peripheral flange is shaped to accommodate complete attachment of an industry standard
3 balance weight thereto, without having to attach said industry standard balance weight to
4 said wheel rim flange.

1 15. A wheel and overlay assembly, comprising:
2 a wheel having an outboard surface thereon, said wheel further
3 having a disk portion and a rim portion circumscribing said disk portion, said rim portion
4 having a rim flange circumscribing said rim portion, said rim flange terminating in a
5 flange lip defining a radially outermost edge thereon, said radially outermost edge defining
6 a diameter; and

7 an overlay having an outboard surface thereon, said overlay being
8 attached to said outboard surface of said wheel, said overlay further having a web portion
9 and a peripheral flange circumscribing said web portion and terminating in a peripheral
10 lip, said peripheral lip having a radially outermost edge defining a diameter, said diameter
11 of said overlay being substantially equal to but not greater than said diameter of said
12 wheel, whereby said peripheral lip of said overlay substantially covers at least a portion of
13 said flange lip of said wheel so as to give a visible impression that said outboard surface of
14 said overlay is actually said outboard surface of said wheel and not a separately attached
15 component of said wheel and overlay assembly.

1 16. The wheel and overlay assembly as claimed in Claim 15,
2 wherein said radially outermost edge diameter of said overlay is substantially equal to said

3 radially outermost edge diameter of said wheel within a circumferential margin
4 therebetween of about 1.2 to 1.5 millimeters having a bilateral tolerance of about 0.8
5 millimeters.

1 17. The wheel and overlay assembly as claimed in Claim 16, wherein
2 said diameter of said overlay is substantially equal to said diameter of said wheel further
3 within a circumferential margin therebetween of 0 millimeters having a unilateral
4 tolerance of about 1.6 millimeters.

1 18. The wheel and overlay assembly of Claim 15, wherein said overlay
2 is spaced away from said wheel by an adhesive/sealant bead means and attached to said
3 wheel with a selectively deposited adhesive.

1 19. The wheel and overlay assembly of Claim 15, wherein said overlay
2 further comprises:

an inboard surface; and
at least one offset integral with said inboard surface of said overlay,
said at least one offset locating said overlay relative to said rim flange of said wheel.

1 20. The wheel and overlay assembly of Claim 18, wherein said
2 adhesive is a double-sided adhesive tape.

1 21. The wheel and overlay assembly of Claim 18, wherein said
2 adhesive is a mechanical interlocking means.

1 22. The wheel and overlay assembly of Claim 15, wherein said overlay
2 includes a heat-resistant metal-plated finish.

1 23. The wheel and overlay assembly of Claim 15, wherein said overlay
2 includes a heat-resistant paint finish.

1 24. The wheel and overlay assembly of Claim 15, wherein said overlay
2 includes a weatherable material with no finish applied thereto.

1 25. The wheel and overlay assembly of Claim 15, wherein said wheel is
2 composed of a metal material.

1 26. The wheel and overlay assembly of Claim 15, wherein said wheel is
2 composed of a composite material.

1 27. The wheel and overlay assembly of Claim 15, wherein said
2 peripheral flange and said rim flange combine to define industry standard dimensions that
3 meet attachment requirements for industry standard wheel balance weights.

1 28. The wheel and overlay assembly of Claim 27, wherein said overlay
2 peripheral flange is shaped to accommodate complete attachment of an industry standard
3 balance weight thereto, without having to attach said industry standard balance weight to
4 said wheel rim flange.